

Missed Connections:

Finding solutions to the Crisis in Air Travel

Full Report



Abstract

This is the first in a series of reports from the Reconnecting America project examining the current crisis in intercity travel in the United States and recommending a more economically stable and integrated system of travel for the country. This first report focuses on the aviation system. Future reports will analyze intercity rail, homeland security issues, and federal policy opportunities.

The crisis affecting the aviation industry is profound and will be long lasting unless changes in policy and approach are found in both the public and the private sector. The airlines have responded to their difficult financial situation by attempting to cut costs in labor, equipment and service. The cuts in service are resulting in reduced schedules, convenience and comfort to travelers and reduced accessibility to the national economy for many cities. The crisis threatens to prolong and deepen the financial difficulties being felt in the travel and tourism industry, which is key to metropolitan economies. The report identifies the cities hardest hit by the cuts in air service, ranking them in categories of large, medium and small airports, and finds that the changes result from deep cuts in short distance flights. These flights of 100-400 miles, which are becoming money losers for the airlines, can be well served by passenger rail and express bus service, if airports become travelports for these services.

Changes in government policy and practice to permit a closer integration of air with rail and bus would create a more stable financial system for all three modes, enabling each to serve the markets best suited. It would shore up our crumbling intercity travel network, restoring access for many medium sized and smaller cities, improving consumer choice and convenience, and giving a boost to the struggling tourism sector. With all of the legislation affecting aviation, rail and highways up for Congressional renewal next year, the time is right to begin building an integrated intercity travel system for the 21st Century.

Reconnecting America

Reconnecting America is an independent project to redefine national policies for intercity travel in order to integrate our separately functioning aviation, passenger rail and intercity bus systems into a more convenient, secure, financially viable and sustainable network. It seeks to define new roles for air travel, passenger rail and intercity bus in America as interconnected parts of a larger system. The project will conduct research and data analysis in order to propose a policy framework that can be considered in 2003 as Congress for the first time contends with the renewal of air, rail, highway and transit legislation simultaneously. More information can be found at www.reconnectingamerica.org.

The project is a joint effort of the Great American Station Foundation and the Center for Neighborhood Technology. Cooperating organizations include the United States Conference of Mayors, the Surface Transportation Policy Project and the Discovery Institute, and Environmental Media Services. The project is funded by the Great American Station Foundation, the MacArthur Foundation, the Packard Foundation, the Surdna Foundation and the Turner Foundation.

Missed Connections:

Solving America's Air Travel Crisis

Background: The Roots of the Crisis In Intercity Travel

The terrible events of September 11, 2001 radically altered the landscape of our country in many ways. One of them was the effect the terror attacks had on our aviation system, grounding all commercial traffic for days and stranding business travelers and families on vacation alike. In places where rail passenger and intercity bus service were available, their use boomed. The stock of rental cars was quickly exhausted, and many were simply stranded. We learned a quick lesson about the vulnerability of our intercity transportation network and about the usefulness of alternative modes. Columnist George Will suggested two weeks after the attack: “. . .shifting more travelers away from the busiest airports to trains would reduce the number of flights that have to be protected and the number of sensitive judgments that have to be made, on the spot, quickly, about individual travelers.”

Unfortunately, this moment of understanding soon passed. In the wake of the attacks, the airlines quickly organized their request for federal assistance, and Congress and the President promptly passed a \$15 billion bailout package of outright grants and loans to the airline companies. The security focus shifted to passenger screening to reduce the likelihood of another attack, rather than also to building redundancy into the travel network to lessen the impact of terrorist events on the transportation system and the economy.

As time has passed, it has become clear that 9/11 exposed the fault lines in an already financially crumbling airline industry. The airlines were in deep trouble prior to the terror attacks, and the ensuing drop-off in passenger traffic just pushed them over the edge. According to the air carrier's own trade association, the Air Transport Association, U.S. commercial airlines began posting a net loss in the fourth quarter of 2000, and the losses continued throughout 2001, with September 11 exacerbating the red ink. The airlines lost \$7.7 billion in 2001, and the industry group projects losses of \$6.0 billion

through the third quarter of this year.ⁱ US Airways has already filed for Chapter 11, and United Airlines has filed for bankruptcy.

A combination of soaring debt, high operating costs, discounted fares, and reduced demand has combined to create the current situation. It is important to recognize, however, that commercial aviation has never been highly profitable. In the first quarter of 2002, the major airlines had to fill 82.8 of their seats in order to break even, according to the Air Transport Association, a historic high for the industry. In the 23 years prior to 2001, the airlines only netted \$6 billion (for a profit margin of 0.3%)ⁱⁱ, and that figure credits continuing government subsidies for low volume air service, for airports, and for air traffic control to the positive side of the ledger. If government subsidies are netted out, commercial aviation, like train travel and highway transportation, is a money losing business that does not pay back the cost of capital.

Airline debt is a huge part of the current financial picture. The airlines have sold and leased back almost all of their equipment, assuming a massive collective debt burden of close to \$80 billion – indeed airline debt has grown almost 50 percent in the past four years -- and accruing continuing debt service obligations that substantially affect future operating costs. In fact, interest expenses for the airline industry are up 34 percent from 2001 to 2002, reflecting the increase in debt service, as rates have held steady or declined over this time.ⁱⁱⁱ

Another key issue for the airlines is the rising cost of aviation and airport taxes and fees, as a percentage of tickets, especially as business travelers have become cost conscious. Most airport fees and taxes are flat assessments, meaning that the shorter the trip, and the lower the price of the ticket, the larger the bite taken by fees and surcharges. Federally imposed fees and taxes are 44 percent of a \$100 ticket, and only 19 percent of a \$300 ticket. Similarly, many airport fees are assessed on a per aircraft basis, rather than a distance traveled basis. As a result the cost burden on a short air trip is likely to be higher, especially for the major airlines, making

the shortest parts of the hub and spoke system the least profitable. This issue is compounded when one takes into account the cost of fuel, which is highest during the take-off and landing phases of a flight. The industry also sees the continuing costs of security as a burden on the its bottom line, whether those costs are assumed directly as increased operating costs, or indirectly as added fees on the air traveler's ticket. Like all of the above, the costs of security are mostly fixed, and will disproportionately burden shorter flights. (Reconnecting America will deal with this subject in more detail in a future report.)

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The major airlines also confront a revenue problem. Travelers are unwilling to pay high fares for the kind of service they received pre-9/11. They either switch to other modes for trips under 8 hours, seek out low fare carriers, or low fares on established carriers, but not the high fares that were the foundation of the old system.

Facing pressure from the new low-cost point-to-point carriers, the network carriers like American, Delta, US Airways, and United have responded by trying to shore up their existing networks. They have retired virtually all of their older 727 and 737 aircraft to the California desert, replacing them with smaller planes; and they have sought to offload short distance trips onto these smaller aircraft and onto regional carriers not burdened with high labor costs. At the same time they have laid-off at least 80,000 employees – 14 percent of the workforce -- and asked employee unions to accept lower wage packages. In addition, the airlines appeared before Congress this summer to request additional federal assistance, citing security costs and continuing losses.

Clearly, the picture facing our commercial aviation industry is not pretty-- and this bodes ill for our economy. As we demonstrate below, the difficult financial situation for the industry

cascades throughout the economy, affecting the tourism industry, metropolitan economies throughout North America, and ultimately the U.S. economy as well. It is indeed in the nation's interest to help the aviation industry find its way out of this financial dilemma.

But it appears that the problem is a structural one affecting the long-distance travel sector as a whole, and this means that short-term bailouts will not solve the long-term issue. A more permanent solution is needed.

Consumers Feel the Heat: Air Service Cuts Since 9/11

The immediate impact of the September 11 attacks was a decline in the demand for air travel. Conventions, business meeting and family trips were postponed or canceled in the aftermath of the attack. But the lasting impact has been more profound: a redesign of the national air service network, a change in the types of aircraft being flown, the loss of nonstop service for many communities, and for many medium sized and smaller cities, the loss of service altogether.

As we stated earlier, 9/11 only exposed the fault lines in the underlying financial instability of air travel; indeed the service cuts go far beyond the overall reduction in passenger demand after 9/11. Shorter flights have been cut the most, probably due to the fact that fixed costs of airport use, federal aviation taxes and fuel comprise a higher share of costs on these flights. But, the impact of the reductions in air service is being felt in all kinds of communities, from big metropolitan areas served by the large hub airports like Boston, San Francisco, Atlanta, and Dallas-Fort Worth through which most flights connect, to medium-sized and smaller hubs like Eugene, Oregon, Mobile, Alabama, Raleigh-Durham, and Kansas City.

The pain is particularly acute, though in small cities and towns, which may have lost all or virtually all of their service, and with it their connection to the national network. Faced with severe losses on these routes, the airlines have seen them as unsustainable, and this means that many Americans will spend this holiday season sharing the highways with truckers, in drives of up to eight hours in length. In Alaska, where a number of airports have closed to commercial service altogether and the Alaska Railroad has curtailed much passenger service, the only option may be to charter an aircraft.

Even the Air Transport Association, the airline trade group, has acknowledged that access to medium and small communities is being affected. According to ATA President Carol Hallet: “As the industry continues to contract, smaller and mid-size communities will be disconnected from the national air transportation system – a system vital to their economic health.”^{iv} Ms. Hallet warned in November 2002 that these unfavorable industry trends could be so cataclysmic as to lead to the eventual nationalization of the airline industry.

In order to provide a definitive view of cuts in air service since 9/11, we compared the Official Airline Guide (OAG) for the week of September 30, 2001, which contains airline schedules for that month, with the OAG for October 2002, and examined two indicators of air service availability: weekly flight frequencies and total seats available from a location. Both indicators are necessary, as seats gives one an indicator of the volume of service available to the traveling public, and weekly flights gives an indication of schedule and convenience. Because airports vary so much in size and type, we have broken the list of airport locations into three categories and have ranked the top ten airports in terms of reduced flight frequencies in each of the

three categories: large hub airports, medium and small hubs and non-hub commercial service airports.

Large Hub Airports

We first looked at the thirty-one large hub airports through which most U.S. scheduled air service flows – 52 percent, and through which most air travelers pass to catch their connecting flights to their ultimate destination. These airports are truly viewed as the economic engines of their metropolitan areas, both for the direct revenue and jobs they generate, and for the connectivity they provide to the larger economy and the economic benefits that accessibility provides to a region. Cuts in air service at these airports can have profound economic impact on a region, then, in job losses as airlines and airport lay off employees.

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As a group the large hub airports lost 10.3 percent of their weekly scheduled flights. Boston’s Logan Airport experienced the largest loss in weekly flights from September 2001 to September 2002, with a loss of 23 percent or 943 weekly flights. In a tie

for second place were Los Angeles International Airport, Newark International Airport and Washington’s Dulles Airport, which all lost 20 percent of their available flights. Miami International was in fifth place with a 19 percent cutback. San Francisco was sixth with an 18 percent loss; while Orlando was seventh with a 16 percent loss. St. Louis’s Lambert Field and Pittsburgh International each felt a 14 percent cut. Seattle-Tacoma rounded out the top ten with a cut of 13 percent.

We also examined loss of seat capacity for the large hub airports, which can give an indication of overall carrying capacity for a market, and

Table 1 : Large Hub Airports Ranked By Percentage Reduction in Weekly Flights	2001-2002 Weekly Frquency Difference	Percent Frequency Lost
1. Boston Logan International Airport	-943	-23
2. Los Angeles International Airport	-1,239	-20
2. Newark International Airport	-740	-20
2. Washington Dulles International Airport	-606	-20
5. Miami International Airport	-322	-19
6. San Francisco International Airport	-592	-18
7. Orlando International Airport	-424	-16
8. St. Louis Lambert International Airport	-635	-14
8. Pittsburgh International Airport	-573	-14
10. Seattle/Tacoma International Airport	-450	-13

also of the potential loss of markets served by these major facilities. As a group the large hubs lost an average of 11.7 percent of their seats, somewhat larger than the average loss of flights. This reflects a shift to smaller aircraft. Appendix 2 depicts our findings with respect to seats. Most of the same cities that experienced major reductions in flights also lost substantial seat capacity. Interestingly, though, San Francisco topped the lost seat capacity list; and Washington Ronald Reagan National Airport ranked second in lost seats, probably due to a substantial shift to regional jet service at this airport.

The cuts in service at these large hub airports typically reflect a service adjustment to account for reductions in transiting passengers, and not a major reduction in cities served. The large hub airports on the top ten list did experience a loss of markets, though, and an analysis of the markets no longer accessible by the ten most affected airports in each category is included

as Appendix 3. For example, users of Boston Logan Airport can no longer fly directly to Austin, Texas, Wilkes-Barre /Scranton, PA, Elmira, New York or Provincetown, MA. Non-stop service is no longer available from LAX to Anchorage Alaska, Hartford, Connecticut, Omaha, Nebraska, Tulsa, Oklahoma, or the California cities of Santa Rosa, Visalia and Merced. Newark travelers can no longer fly directly to Houston Texas, Daytona Beach or Melbourne, Florida. In the nation's capital region, users of Dulles cannot directly access the neighboring travel markets of Beckley and Bluefield, West Virginia, Lynchburg, Newport News and Staunton, Virginia and Akron, Ohio. Direct service is also no longer available from Dulles to Austin, Texas, Mobile, Alabama or Sacramento, California.

All large hubs experienced a reduction in seats available, and only one experienced an increase in flight frequency: Cincinnati, which recently became a hub for Delta Airlines.

Small and Medium Hub Airports

The 107 small and medium hub airports comprise a large number of the nation's airfields. These are the airports for which most of the travel is origin and destination travel, but which have some percentage of connecting flights to smaller cities, typically on regional airlines or on smaller craft. These airports have lost service to smaller cities, as well as experiencing reductions in their schedules to the larger hubs. Most of them have also been affected by the dramatic shift from larger medium range jet aircraft to regional jet service, reducing overall seat capacity in many markets.

Overall, the small and medium hub airports experienced an average 6.6 percent average reduction in flight frequency, but many airports in this category felt more draconian cuts in service. Table 2 depicts the ten airports in the small and medium hub category that lost the highest percentage of flights. Myrtle Beach, South Carolina was hardest hit in the small and medium

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hub category, losing 36 percent of all flights in the past year. Ranked second and third were Eugene, Oregon with a 31 percent loss and West Palm Beach, Florida, which lost 178 weekly flights for a thirty percent loss. Bangor, Maine was fourth with a 29 percent loss. Raleigh-Durham, North Carolina was also particularly hard hit, losing 545 weekly flights for a 29 percent cutback. Hilo, Hawaii, Mobile, Alabama and Palm Springs, California were six, seventh and eighth in loss of weekly flights. Two New York airports rounded out the top ten, with Rochester, New York in ninth place with a 24 percent cutback and Long Island's Macarthur Airport with a 23 percent cut in flight frequency.

In terms of seat capacity lost, it is worth noting that this category lost a higher percentage of seats than flights, documenting the shift to smaller airplanes in these markets. The category lost an average of 10.4 percent of its seat capacity, and against 6.7 percent of flights. For

Table 2 : Small & Medium Hub Airports Ranked By Percentage Reduction in Weekly Flights	2001-2002 Weekly Frequency Difference	Percent Frequency Lost
1. Myrtle Beach AFB, SC	-93	-36
2. Eugene, OR	-77	-31
3. West Palm Beach Int'l Airport, FL	-178	-30
4. Bangor, ME	--64	-29
4. Raleigh/Durham, NC	-545	-29
6. Hilo, Hawaii	-50	-27
7. Mobile Municipal Airport, AL	-48	-26
8. Palm Springs Municipal Airport, CA	-74	-25
9. Rochester, NY	-165	-24
10. Long Island Macarthur, NY	-100	-23

the consumer this means more crowded aircraft and longer flight times. Allentown, Pennsylvania lost the largest number of seats, at 46 percent. Other airports affected in terms of seat capacity were Santa Barbara, California with 29 percent and Portland, Maine with a 26 percent cut back. These results are depicted in Appendix 2.

As far as travel markets, Appendix 3 depicts the cities no longer directly served from the top ten airports in this category. A few examples serve to show the pattern of loss of access. Residents of Myrtle Beach can no longer fly directly to Raleigh-Durham, Cleveland or Kansas City. West Palm Beach no longer directly serves Cleveland, Raleigh-Durham or Fort Lauderdale. Raleigh-Durham residents can't fly non-stop to the nearby cities of New Bern and Wilmington, North Carolina, Columbia and Myrtle Beach, South Carolina and Louisville, Kentucky; and they also can't directly access Indianapolis, Denver, Jacksonville, New Orleans or Buffalo.

Non-Hub Commercial Service Airports

On a percentage basis, some of the largest reductions in service have been felt by the 315 airports in these smaller communities. These airports are typically served by a few flights each day to one or two destinations, from which passengers must transfer to connect to their ultimate destination. The non-hub commercial service airports experienced an average cut in flight frequency of 7.7 percent. Due to changing economics, many of these airports have been hit particularly hard, and forecasters believe more cuts are in store as the high costs of new security requirements begin to be felt in the federal budget.

Indeed, 21 non-hub airports have lost all scheduled air service, as of December 2001. These airports are the following:

- **Alaska:**
 - Candle Airport (CDL),
 - Cube Cove Airport (CUW),
 - Seward Airport (SWD),
 - Utopia Creek (UTO)
- **Arizona**
 - Fort Huachaca/Sierra Vista
- **Arkansas:**
 - Mountain Home (WMH)
- **California:**
 - Sonoma County Airport (STS)
- **Florida:**
 - Miami Seaplane Base
- **Iowa:**
 - Ottumwa Industrial (OTM)
- **Illinois:**
 - Belleville (BLV)
- **Indiana:**
 - Gary/Chicago (GYG)
- **Missouri:**
 - Waynesville Regional Airport (WMH)
- **New York:**
 - Oneida County Airport (UCA)
- **New Mexico:**
 - Ruidoso Airport (SRR)
 - Gallup (GUP)
- **New Jersey**
 - Teterboro (TEB)
- **North Carolina:**
 - Hickory Regional Airport (HKY),
 - Moore County Airport (SOP)
- **Ohio:**
 - Youngstown-Warren Regional Apt (YNG)
- **Washington:**
 - Friday Harbor Seaplane Base (W33)
 - Rosario (RSJ)

In addition to these airports, we have ranked the ten airports in small markets that have been most impacted in terms of cuts in number of weekly flights. These airports are depicted in Table 3. Appendix 2 provides the detail on cuts in terms of seat availability.

Worcester Regional Airport in Worcester, Massachusetts topped the list, with a two-thirds reduction in weekly flights. Shenandoah Valley Regional Airport in Virginia ranked second with a 64.8 percent cutback in flights. Sierra Vista Regional Airport in Arizona ranked third with a 63

Table 3 : Non-Hub Commercial Service Airports Ranked By Percent Reduction in Weekly Flights	2001-2002 Weekly Frequency Difference	Percent Reduction in Weekly Flights
1. Worcester, MA	-53	-66
2. Staunton, VA	-35	-65
3. Fort Huachuca/Sierra Vista, AZ	-12	-63
4. Santa Fe, NM	-59	-62
5. Pellston, MI	-34	-61
6. Salinas, KS	-19	-61
6. Hobbs Lea County Airport, NM	-19	-61
6. Beaumont Jefferson County Airport, TX	-52	-61
9. Sioux City, Iowa	-45	-52
10. Muskegon, MI	-40	-50
10. Morgantown, WV	-38	-50

percent reduction. Santa Fe, New Mexico was fourth, with a loss of 62 percent of its weekly flights. Tied for fifth with 61 percent cutbacks were Pellston Municipal Airport in Michigan, Salina Municipal in Salina, Kansas, Leas County Airport in Hobbs, New Mexico, and Southeast Texas Regional serving Beaumont and Port Arthur in Texas. In ninth place was the Sioux Gateway Airport in Sioux City, Iowa, losing 52 percent of weekly flights. Tied for tenth place with a loss of fifty percent of all flights were Muskegon County Airport in Michigan and Morgantown Municipal Airport in Morgantown, West Virginia.

The loss of flights at Worcester, Massachusetts, for example, has also meant a loss of access to a number of key markets, and hub connections, including New York's Kennedy Airport, Chicago O'Hare, Portsmouth, New Hampshire, and Orlando, Florida. For a complete listing of lost air markets for the top ten non-hub airports, see Appendix 3.

These airports lost an average of 7.7 percent of overall seat capacity. Appendix 1 details the losses in seat capacity in this category, which is often greater than the loss in flight frequency, reflecting the shift to even smaller aircraft. For example, Worcester, Massachusetts, which lost 66 percent of all flights, lost 77 percent of seat availability.

The Impact on Tourism and Tourist Related Industries

Travel and tourism is a significant part of our national economy, and a key component of the economic health of America's metropolitan areas. According to an October 2002 report by DRI-WEFA for the U.S. Conference of Mayors and the Travel Business Roundtable, travel and tourism generated \$272 billion in 'Gross Metropolitan Product' in the nation's top 100 metropolitan areas in 2000, accounting for 7.1 Percent of total Gross Metro Product in the top 20 metro areas. The economic contribution of this sector

in these metro areas exceeds that of health services, banking, communications and electronic equipment manufacturing.

According to the DRI-WEFA report, the impact of 9/11 and the continuing curtailment in aviation activity has had a significant impact upon metropolitan area economies, amounting to \$11.7 billion in 2001 and \$18.9 billion in 2002 for the nation's twenty largest metropolitan areas. The expanding impact of the loss over time is attributed to three factors: the importance of international travel and tourism to U.S. metro areas, the importance of aviation to major metro areas, and the slowness of business travel to rebound.

The DRI-WEFA study estimated economic impacts post 9/11 for each of the top twenty metros, and in fact each of the top six large hub airports with reduced service experienced major losses in travel and tourism direct economic activity. Boston, which had the largest flight reduction post 9/11, saw a 14.9 percent drop in travel and tourism spending. Los Angeles, ranked second in this study, lost 13 percent of travel activity. Newark was third in our study, and the New York region lost 15 percent. Washington, DC lost almost 11 percent; Miami saw a 12.9 percent drop; and the San Francisco/Oakland area saw a 20 percent decline in travel economic activity.

Tourist-related taxes contribute to a city's Other Taxes category, which is, on average, 13.5% of most cities' General funds.^v In some cities, however, such as Tempe, AZ, which collects 70% of total revenue from Sales tax,^{vi} tourists generate a much greater proportion of total revenue. Some smaller cities that emerged high in our ranking also are dependent upon travel and tourism, especially for international visitors. One example is West Palm Beach, Florida, which lost 30 percent of its flights, and according to the

DRI-WEFA study, lost \$60 million in international visitor revenue in 2001 and 2002.^{vii} Mobile, Alabama, whose airport has lost 26% of its seats, is facing declining revenues for the third year in a row. In their 2003 budget, they

have projected revenue from their hotel room tax to be lower than what they projected for 2001.

Another recent study of U.S. cities, the National League of Cities' annual City Fiscal Conditions Survey in 2002, also

found a major effect from the drop in tourism. The study reports fiscal year 2002 is the "first time in a decade, the majority of city officials report they are worse off financially than in the previous fiscal year" and will be "less able to meet financial needs". Two major causes are lower revenues, due to declines in all major taxes: sales, income and tourist-related, and higher expenditures for public safety, health care, and infrastructure. Specifically, the survey, which covered the six quarters from October 1, 2000 to March 31, 2002, found "Tourist tax collections were hardest hit. Revenues from hotel, restaurant, and amusement taxes plunged from 104% of budgeted amounts in the second quarter of 2001, to 82% by the first quarter of 2002." This is 18% less than what was "conservatively" projected and budgeted.

To make up for the large losses in tourism, and recognizing the recession and terrorism fears will continue to reduce business, international, and planned leisure travelers, some convention and visitors bureaus, like Boston's, are trying to attract travelers within driving distance. On the upside, these travelers can make plans at the last minute and don't have to factor in the cost of airfare. However, these travelers are much more price conscious than business travelers, forcing average daily room rates, and their related taxes, down. This strategy also reduces the market area to the population within reasonable driving distance.

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Economic Impact of Airports

Economically, airports generate jobs, an increase in travel and tourism, opportunities for new businesses and the movement and exchange of commerce and freight. Jobs at airports range from hundreds at small hubs to 45,000 at the largest hubs. Related jobs in the surrounding area increase the number of jobs four to ten times. In a 2002 economic impact study of 12 different size airports, estimated impacts ranged from \$2.3B in the Fort Meyers region from Southwest Florida International to \$17.3B in Atlanta. Kentucky estimates each traveler brings \$244 to \$400 and Kansas City links one out of every twenty jobs to

its airport. Nationally, the study estimated 6.7 million jobs generated by airports, 1.9 million on site, and 4.8 million in the surrounding communities.^x This sums to a direct and indirect economic impact of \$15.8B and \$507B, respectively. Airports also generate \$33.5B in taxes annually, and although most of the tax revenue is dedicated to aviation, cities benefit from the airport's contribution to their parking, hotel, and vehicle fuel taxes. In

Chicago, 40% of the City's vehicle fuel tax revenue comes from jet fuel sales at O'Hare.^{xi}

Issues of Concern

On the other hand, when all impacts are considered, and when the economy and air travel market are depressed, airports are financially exposed. Operationally, airport earned revenues are frequently not enough to cover capital expenses. To cover this deficit, government funding provides a significant percentage of total revenue for airports, from 15-34% at small and non-hubs to 3-7% for large and medium hubs.^{xii} This funding has increased in the last 15 years. Government transportation spending at all levels on air travel has grown from 10% to 14%, with the federal share increasing at an even greater

In addition to municipalities, other industries that benefit from tourism are also experiencing difficult times, including food suppliers, like local fisheries, food producers, and other hotel and restaurant suppliers. Art and cultural events are another industry and are having an especially hard time, since their revenues are dependent not only on direct tourism, but also on city, state and federal government funding which also depends on tourism and a good economy.^{viii}

The Impact on Airports and Municipalities

Of the 3,304 airports in the National Airport System, 540 are Commercial Service Airports, of which 135 are hubs.^{ix} These hubs account for 95% of all passenger traffic and are the focus of this study.

Airports are both assets and liabilities in their communities. As assets, they provide hundreds to thousands of jobs, and access for people and freight. But, as liabilities, they consume acres of land, cause air, water and noise pollution, and incur millions to billions of dollars in debt. With the current substantial decline in passengers and associated fees and charges, the bankruptcies of major airlines, with possibly more to follow, the costs of security, and the projected decline in government funding, the operations and sustainability of the 540 Commercial Service publicly owned airports is becoming a concern. In the last year, 21 commercial airports have already ceased scheduled service. To protect jobs, local economies and government finances across the country, these large public entities need creative approaches to obtaining new sources of revenue to survive.

In the last year, 18 commercial airports have already ceased scheduled service.

rate, 15% to 24%, than state & local, 6% to 10^{xiii}. For 2002, a primary source of government airport funding, the Airport Improvement Grants Program (AIP^{xiv}), totals \$2.2B to cover various projects at 1,938 airports. Since its inception, AIP has become a significant source for airports; during the 1990s, AIP paid for “21 to 40 percent annually of the total airport capital-development expenditures.”^{xv}

Both the fees and the revenues collected at airports are derived from users, in the form of taxes and surcharges, landing fees and lease and concession revenues. As the financial condition of the airlines declines, and the passenger flow through airports decreases, these revenue flows also drop, and this can be of concern to municipalities and special districts that own and operate airports. Airports, like airlines are heavily leveraged with debt to build both terminal and airfield improvements; and servicing the debt depends upon a steady flow of revenue into the airport.

U.S. airports have already accumulated more than \$58 billion of tax exempt debt^{xvi} and the sources to repay this debt--airport revenue, grants and PFCs--are steadily declining. A recent lawsuit in Detroit depicts the potential problem. Filed by the Wayne County Commissioners against the Detroit Wayne County International Airport, the suit concerns the airport’s \$1.6 billion in debt and who is responsible. The airport claims the county is not, but according to the county’s bond counsel, the “county’s obligation could extend to the airport’s entire outstanding debt, not just the amount backed by the letters of credit”^{xvii}

Additional price increases for passengers and airlines could be an option, but both of these customers of airports already believe they are overcharged, especially after the increases already implemented by airports in the last year. Large airlines at major hubs want lower fees, similar to those charged to low-cost airlines at smaller hubs, and many passengers are already opting to drive. Further cost reductions are another option, but this would lead to more job losses and declines in service, and the savings

from cuts cannot yield enough to replace the lost revenue from the substantial loss in traffic. This is especially true for smaller airports, which have fewer operations to cut. In the last year all but one of the 31 large hubs lost flight frequencies, seats and available seat miles^{xviii}. Kansas City, a medium hub, lost 45,000 seats and potentially \$10 million in just passenger and PFC revenue. In a city that relates one in every 20 jobs to its airport, an 11 percent, or more, decline in total revenue could have far reaching impacts.

Solving the Airport Dilemma: Serving New Markets

To solve the dilemma, airports need a way to increase terminal use. One way is to tap into the annual one billion U.S. person trips on other modes of transportation, without exacerbating air traffic capacity and congestion problems, which are difficult to resolve due to space constraints, environmental problems and expense. Perhaps the way to do this is to turn airports into travelports, with transfer facilities for rail and bus as well as for airline passengers.

Creating a More Stable Transportation System: The Case for an Integrated System

The grim financial picture of the aviation industry is leading to continuing cycles of cutting service to cut costs, which then further erodes the basis for hub and spoke operations of the major carriers. And for the consumer, lost air service frequency and convenience is clear evidence that the system isn’t working and just one more reason for avoiding the trip altogether. The problem is not that air travel has become prohibitively expensive – constant fare wars have prevented that from occurring – but that consumers are confronting fewer choices, more crowded aircraft, and an overall reduction in accessibility. As we head into the Christmas travel season,

the flight one needs may not be there at all. But it doesn't have to be that way. There are options for relieving this travel crunch that would improve the customer experience and provide more travel choices and, at the same time, realign the intercity travel industry to ensure a more stable market and better economic, and environmental, prospects.

It is a simple concept of connecting our current means of traveling region to region – the air-rail-bus networks – so that each travel mode provides the type of service that it is designed to do best. The idea is to turn airport terminals into travel ports where rail, bus, and urban

transit would be added to the traditional mix of aviation, parking and rental cars. By making selected improvements to provide more reliable service options via other modes of travel for short and medium-distance passengers, airport capacity will be freed for the higher-value, longer air trips. A more redundant system is also an investment in economic security to ensure continued movement in the face of natural or man-made disasters.

This solution also provides a way to address the revenue problem airlines confront as business travelers respond to declines in service by seeking low fare, no frills carriers by providing an increase in value. There is still room for carriers that provide services that people value at a higher price. The only question is how much these services can take advantage of intermodal integration. Linking European planes with trains has been focused on business travel markets, like Frankfurt-Stuttgart or Paris-Brussels. By offering downtown access on fast train connections, airlines can charge high-yield fares for high-quality service, about the only alternative to

today's focus on low fare, low yield, strategies.

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Improving Rail Service

The idea is to turn airport terminals into travel ports where rail, bus, and urban transit would be added to the traditional mix of aviation, parking and rental cars. By making selected improvements to provide more reliable service options via other modes of travel for short and medium-distance passengers, airport capacity will be freed for the higher-value, longer air trips.

If that sounds like wishful thinking, consider what is already happening in Washington State, California, Florida, Alaska, and New York. In these states and elsewhere, the concept is being adopted incrementally often by first providing more frequent service

between key city pairs, which gives travelers a convenient option. For example, increasing rail service on the Capitol Corridor rail line – to nine trips each way daily between Sacramento and Oakland, CA – increased ridership 40 percent between 2000 and 2001 and freed up both air and highway capacity. More Amtrak service improvements supported by the state of California resulted in record ridership levels on other California rail corridors. The California experience also points up the value of intercity bus links with rail, where buses are scheduled to meet trains to transport passengers to communities not reached by the rail network.

Another important step is improved equipment and service quality. Introduction of the sleek Talgo trains in the Pacific Northwest in 1999 boosted ridership between Seattle and Portland

and reduced travel time from 4 hours to 3.5 hours. The state-railroad partnership (the states of Oregon and Washington and Amtrak and BNSF Railroad) is planning steady improvements to track and terminals to increase speed and frequency with the goal of carrying four times more passengers by 2016 than the 2001 level of 565,000 annually. The total cost of the plan, including more equipment, is \$1.86 billion over 20 years, but this includes significant capacity improvements for freight rail and regional transit. Under the cost-sharing plan Washington State is expected to cover just over 40 percent of the cost.

A more familiar example is Amtrak's Northeast Corridor (NEC), which became an even more important transport option after the events of September 11. With the introduction the high-speed Acela Express trains in the same time period, Amtrak's share of the combined air-rail market between New York and Washington increased to more than 50 percent, despite technical problems with the trains.

Improvements in intercity bus access to airports are also underway, with Greyhound directly serving 20 airports. One notable project is at Key West International Airport in Florida, where the airport serves scheduled air and bus service as well as providing a direct connection to Amtrak service via a thru-way bus. Unfortunately, more often than not, airport operators have been resistant to bus terminals at airports, often deny access to intercity buses at the same time as they promote access for hotel shuttles.

Making Travelports a Reality

Investments in physical connections between rail and air service also are being made all over the country. Many cities are now investing to bring rapid transit, and intercity passenger services directly into the airport despite formidable barriers in federal laws and regulation. In Octo-

ber 2001, the Northeast Corridor also saw the introduction of a full service air-rail link. The Port Authority of NY and NJ planned the new monorail between the busy Northeast Corridor and Newark airport hoping to reduce highway congestion on connecting highways. Operating every 7 – 11 minutes, ridership has been steadily climbing and Amtrak and Continental now offer interline ticketing for a number of cities along the NEC. Travelers at Newark can choose between New Jersey Transit and Amtrak trains for travel to New York City, and can access the full range of Amtrak choices in the Northeast Corridor between Washington and Boston. Previously the only other air-rail connection on the NEC was the rail station and shuttle bus connection to Baltimore-Washington International (BWI). The link has been increasing in popularity since Amtrak began more frequent service to BWI in the mid-1990s. The station is also served by the MARC commuter rail system. Even with infrequent connecting bus service and a premium ticket price, Amtrak riders to the station increased by 20 percent between 1999 and 2001.

Another new air-rail facility is the station and covered pedestrian connection between the Ted Stevens Anchorage International Airport and the Alaska Railroad. This \$28 million project, scheduled to open by the end of 2003, was planned

as an integral part of the expansion of Alaska's busiest airport. In addition to improving regional access to air service and to airport jobs, a market study identified access between the cruise ships and the airport among

the tourism-related benefits of the connection, California also has begun investing in the travel port concept with connections between both intercity rail and urban rail in addition to the timed bus links cited previously.

Caltrain provides frequent commuter rail service in both directions between San Jose and downtown San Francisco with a free timed-shuttle between the Millbrae Station and the San Francisco International Airport. The shuttle trip is six

Many cities are now investing to bring rapid transit, and intercity passenger services directly into the airport.

minutes. Building on the popularity of the service, the Airport Authority with other Bay Area agencies has launched an ambitious program to expand rail linkages to the airport. Improvements include: extension of BART to the international terminal and the creation of a people mover system to connect the BART station with all the air terminals and the car rental facilities and parking garages. A high-speed rail (HSR) connection to the airport is part of a proposed HSR system for California recently approved by the legislature for a \$9.95 billion referendum.

Many other airports are also considering the addition of rail connections, with direct connections to regional rail and bus transit now possible at DC's Reagan National Airport, Chicago's O'Hare, Atlanta's Hartsfield Airport, as well as at Burbank, Cleveland, and Portland, Oregon. A new rail link to New York's Kennedy Airport will open in 2003.

The European Experience

To see where the future could take us, one need only look to Europe, where individual countries started investing in the late 1970's in high speed rail and air-rail connections as a means to limit air and road congestion and reduce air pollution. With the regular introduction of new high-speed lines during the 1990's, Europe now has over 1950 miles of high-speed rail in service. Over the last decade, ridership has tripled. Under current policy and on the drawing board another 4,000 miles of new service are scheduled for operation by 2010. The newest high-speed service, which links Paris' Charles De Gaulle airport to Marseilles with a 3-hour train ride, illustrates the popularity of the service. Air-rail mode split has moved from 40 percent rail to 61 percent in the first year of operation. Previously, the train trip took more than 6 hours.

In addition to developing new lines individually, in the 1990's European countries began developing common policies, inter-country services and business enterprises. The benefit of these

new efforts can best be seen in the Thalys service, a brand name for jointly operated trains by the Belgian, French, German, and Dutch railways. The first line began operation at the end of 1997 on a 180-mile line between Paris and Brussels. Journey time was cut from 2 hours and 43 minutes to 1 hour 25 minutes – and was an instant success. Air France responded to the competition by working out a joint agreement in 1999 allowing the airline to offer passengers a choice: four daily train trips between Charles de Gaulle airport and center city Brussels or five daily plane trips from airport to airport. Air France ended the experiment by canceling the 10 one-way flights and now books one to two first class cars on each Thalys train between Charles de Gaulle and the Brussels Midi rail station.^{xix} The result is not only happy passengers, but canceling the ten flights a day will save 6700 tons of CO2 emissions.

What we have learned from the European experience is that trains are popular across all markets when the trip is time competitive with air. The general rule of thumb for European planners is portal-to-portal rail travel in four hours or less. With average train speeds of 150 mph, the development of high-speed rail is making much of Europe comfortably accessible by rail. European Union policy encourages investing in rail interconnectivity to bring Europe closer together as an economic investment and as a means of reducing the impact of growth on the environment.

Overcoming Obstacles to Change

As with most opportunities for change, there are several factors at work to keep an antiquated travel system in place: These include: the perceived self interests of the present institutions and their political supporters make the players wary of any major alteration to the playing field, distances between many major cities in some parts of the country are greater than in Europe, and the concern for the cost of transitioning to a new system.

To implement the new approach, all the modes and owners of facilities would need to cooperate in planning the connections that would create a new network. The aviation industry (airlines and airports) and private freight railroads have the bulk of the resources needed but these industries require considerable evidence of how they will fare in any potential shift. At the present time, airlines have a track record of substantial subsidies from Congress that they may not want to share, and the freight railroads have minimal intrusion on their exclusive rights away, albeit deteriorating. Local government owners of airports are also concerned about meeting debt requirements – 58 billion at last count - on their current facilities and are uncertain how a new system would affect needed concessions and airline related revenues. Amtrak and intercity bus operators would also need to be at the table and be willing to share information, but have limited capital resources to offer.

With more than a million travelers annually, travel markets such as Los Angeles to Las Vegas, Houston to Dallas, Charlotte to Atlanta could be well served by frequent, higher speed rail service, freeing up slots at airports for cross country connections and reducing road congestion. Today, these and other prime travel markets have little or no rail service and few have effective air-intercity bus connections. (See accompanying chart.) In most regions of the country, linking these market pairs also will form viable long distance train corridors. For example, by serving an approximately 650-mile rail route between Washington, DC and Atlanta, Georgia, the metropolitan areas of Richmond, Virginia, Raleigh, North Carolina, Charlotte, North Carolina also would be connected. Similar to the Pacific Northwest rail service, several trains a day could travel the full route, With more frequent service between key cities, and connecting bus service, thereby providing far greater intercity transportation access to both the small and large communities in this growing region.

Seizing the Opportunity

In this wary environment, however, there are three factors pushing the disparate players to consider something new.

The first factor is the negative financial reality for all the intercity travel modes and for the local governments holding the airport debt. While this report focuses upon air service, the fiscal reality confronting Amtrak is just as severe, and the prospects for the intercity bus industry are also for lean times ahead. The poor conditions and limited prospects for improvement are prodding some of the needed institutions to look at new arrangements and partnerships. Importantly, several of the capital-starved freight railroads, which own critical rail access, have begun to signal interest in public-private partnerships for track and terminal improvements. And, in a multimode operation, airport owners could replace the lost concessions and parking revenue from reduced air traffic with the passenger activity generated by access to all the modes.

Second, poor air travel conditions have generated pressure from consumers that are spurring more local and state governments across the country to start planning alternative access, both local and intercity transit. Plans are underway to connect Amtrak to airports in the Midwest, Providence RI, Miami, New York City and Dallas-Fort Worth. And, it is worth noting that, states, which have the bulk of federal transportation resources, are leading many of these efforts. Airports also have shown some willingness to increase access to their property by carriers such as Greyhound, after years of resistance to service connections.

Third, for many fast growing locales the real motivation is the recent double-digit population growth and more of the same projected for the next several decades. This reality is getting officials to look hard for transportation capacity, and many are finding it in rail. California's High Speed Rail Commission director, Mehdi Morshed explains that high population growth creates the necessity for rail investments, pointing out that airports in the state's two major markets

are capped out, and that rail offers one of the few options that can handle the growth and promote environmental

Congress Is Due to Reauthorize Air, Rail, Highway and Transit Bills Next Year

What could unite these interests – or at least a critical mass – in a new intercity travel system is the opportunity presented by Congressional consideration of authorizing legislation for all affected modes of travel next year: air, rail, highway, and local transit. This is a rare occurrence, and the opportunity it presents to connect the separate modes is not lost on some of the key Congressional leaders, who have been vocal about the poor condition of intercity travel. When there are this many interests involved in legislative action, there is no predicting the outcome, but the forces for positive change are growing. The Administration has concluded that rail passenger service is needed as part of the future transportation system. And a growing number of regions are committed to improving-service for their communities.

Legislative changes needed to produce a system that effectively serves the traveling public by connecting the modes include simple, and obvious steps, such as joint planning requirements to improve ground access. Ideally, though, the resulting bill would do three things: establish a new interconnected system map for air, rail, and bus; provide funding (or flexibility to fund) to turn airports into travel ports with rail and bus facilities in the airport; and designate funding to make the necessary improvements, in concert with state and private interests, to rail track and control systems. Table 4 details some of the policy choices that could help make this more stable travel system a reality.

A federal policy solution would remove the many legislative barriers that inhibit regions from

bringing air, rail and bus together into travel-ports, permitting state and local partnerships to form to integrate our travel system and improve rail and bus service. Current federal policy pits each federally subsidized mode against the other. The result has been bad for the consumer, bad for the economy, and had ultimately led to the precarious financial situation confronting the intercity travel industries.

The Result Can Be Improved Consumer Choice, More Financially Healthy Industries, and a Stronger Economy

If Congress seizes the opportunity before it next year, it will link our separate air, rail and bus systems into travelports, upgrade rail and bus service, and do so a way that makes each industry more financially sustainable while improving customer choice, convenience and reliability. If we seize this opportunity, we will have also succeeded in designing a travel system that is strategically more secure because it is more redundant, while being more economically and environmentally sustainable and energy efficient.

Table 4: Policy Options For Making *Travelports* A Reality

1. Establish the Interconnected Intercity Travel System

- a. Remove legal and administrative barriers to multi-modal access to publicly funded airports, rail and bus terminals
- b. Develop a national intermodal system plan that identifies medium distance (300 – 500 miles) rail passenger routes that are compatible with rail freight (through technology or right of way improvements) and that identifies multimodal connections and service opportunities to link the various publicly funded intercity travel modes (air, intercity bus, ferry) with local and regional transit and road access). Such plan must show potential to serve identified travel markets and have the potential to improve intercity travel in at least three quarters of the states within 25 years
- c. Coordination of federally supported transportation plans at state and regional level

2. Allow Regional Choices in Transportation Investments

- a. Establish intercity travel, regardless of mode, as an eligible investment of federal funding by states and regions when identified in the intermodal system
- b. Allow planning and research for these purposes to be eligible in all federally funded transportation planning and research programs.
- c. Private organizations or public entities – not now eligible - shall be deemed eligible for funding under these programs if sponsored by a currently eligible entity
- d. The Federal Aviation Administration and the Air Transportation Stabilization Board shall consider intermodal potential in their respective reviews of applications for federal grants and loan guarantees and provide priority over those that do not
- e. Provide funding for priority investments in technology research, higher speed rail corridor improvements, and intermodal station/terminal investments

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Methodology

Data Used in the Report – Sources and Methods

This report and others in this series draw upon data from a variety of sources. The following sections describe our sources, and briefly explain how we have analyzed the information available.

In all analyses, the focus is on person trips to domestic US destinations. Many larger cities also generate substantial international traffic, but for the purposes of these analyses we only examine services and travel patterns among US cities. As with any type of data analysis, some caution is warranted in interpreting these numbers. We have attempted here to use all data in both a reasonable and valid manner.

Airline Schedule Information

The calculation of flight departure frequencies and available seats uses the industry standard OAG MAX (Market Analysis for Air Transport Specialists) airline schedules database. This database includes the detailed weekly schedule data that airlines submit to OAG Worldwide for distribution in a variety of electronic and printed formats. This data is the most reliable commercial monthly source of airline industry schedules. The data provided includes flight times, aircraft equipment, routings, and periods during which specific flights will be offered.

For this analysis, the September 2001 and 2002 OAG databases were examined in the following manner. A similar calendar week was chosen from each year for use in the year-to-year comparisons. The comparisons in this report use a the full week beginning with Monday, September 30, 2002 from the September 2002 OAG MAX database and a full week beginning with Monday, October 1, 2001 from the September 2001 OAG MAX database. These weeks were carefully selected as representative of the planned fall schedule. The weeks were also selected to avoid days with travel anomalies, such as floating holidays like Thanksgiving that cause the schedules to spike, or very slow periods like early December when flight schedules drop with the decrease in demand. (The tragic events of September 11, 2001 did not affect the September 2001 schedule database as it was published prior to those events.

For each week, a summary report was developed that detailed the number of unique non-stop departures leaving each airport, the number of seats on those departing flights, and the offered available seat miles for these nonstop flight legs to domestic U.S. airports. Nonstop flights were chosen to not double count capacity that could serve multiple destinations through stops at intermediate cities. This actual number of outbound seats to the first (or only) nonstop destination is the maximum number of possible passenger boardings or enplanements that would be possible if all seats on all flights to all domestic destinations were full.

The OAG data has some limitations. It is a planned schedule of departures and associated aircraft for those particular flights and airlines. As situations change, there may be significant changes from such planned schedules – depending upon weather, and ongoing changes in travel demand, for example. But, as airline schedules are worked out months in advance so flight crew staffing and aircraft maintenance needs can be met, the OAG schedules are reliable indicators of expected operations by an airline within specific markets.

Airport Financial Analysis

The airport financial analysis used several sources, including news reports, bond rating agencies (Moody's, Standard & Poor's, and Fitch Ratings), and the FAA's Airport Financial Reporting Program associated with the FAA airport grant programs. We received a summarized data set of approximately 465 airports and their annual financial reports from 1996-2000 directly from the FAA. The same information can be accessed for individual airports via the Internet through the FAA's Compliance Activity Tracking System for the Airport Financial Reporting Program at <http://cats.crownci.com/>. It should be noted that the FAA airport financial data is not certified, but is required by mandate and made available with the following disclaimer: "Airports submit their financial data in accordance with FAA policy and Public Law 103-305. The information is made available via the Internet solely for the convenience of the public. The FAA makes no representation as to the validity and accuracy of the information. Individuals relying on this information to make decisions should obtain a separate certified version directly from the airport."

Enplanement data used in conjunction with the financial reporting data is also from the FAA Airport Planning group. This data is also available through the Internet in various summary forms. One source is the Enplanement/All-Cargo Statistics reports available through the FAA Airport Planning site at <http://www.faa.gov/arp/planning>.

Inter-City Travel Patterns

The inter-city travel patterns discussed in this and related reports are based upon information contained in the 1995 American Travel Survey (ATS) conducted by the Bureau of Transportation Statistics, U.S. Department of Transportation. The 1995 American Travel Survey is the most current publicly available U.S. national-level information source on inter-city travel patterns

The analyses we present use the weighted person trip totals – the individual person trips expanded by the weighting factors assigned by the BTS as part of the study. These weights were designed by the BTS to reflect the community's demographics and travel behavior. The implication is that transportation behavior is reflective of demographics.

The ATS survey is a statistical sample of travelers. Sometimes the sample may be more or less representative of a metropolitan population. The ATS data is only as reliable as the sample of respondents that participated in the survey. Generally, the results are felt to be most accurate at the state and national levels, with declining accuracy as smaller and smaller pools of respondents are used for estimated inter-city travel patterns. Where necessary we have excluded unreliable results from our analyses.

For More Information

For more details on the information used in this analysis, please feel free to contact:

Reconnecting America Project: www.reconnectingamerica.org

The Great American Station Foundation: 615 E. Lincoln Ave., Las Vegas NM 87701
(phone: 505.426.8055), www.stationfoundation.org

Center for Neighborhood Technology, 2125 W. North Avenue, Chicago IL 60647 (phone: 773.278.4800).

Endnotes

Airport Size	Operating Revenue-%of Total				Non-Operating Revenue				
Hub Size	Areo-nautical Operating	Non-Areo Operating Passenger²	Non-Areo Operating Other³	Total Operating	Bonds	Govt.	PFCs	Other Non-Operating⁴	Total Non-Operating Revenue
Large (n=29-31)	28%	19%	8%	54%	29%	3%	7%	6%	46%
Small&Med (n=111)	24%	23%	9%	55%	23%	9%	8%	5%	45%
Non-Hub (n=324)	23%	12%	12%	47%	5%	34%	5%	9%	53%

¹ Aeronautical Operating revenue from airlines and cargo; fuel flowage, landing, terminal, security, apron tie-downs, FBO, Utilities, Miscellaneous

² Passenger revenue consists of Concessions, Parking, and Rental Cars

³ Operating non-aeronautical revenue consists of catering, rent, royalties, interest, non-aeronautical miscellaneous

⁴ **Other non-operating revenue consists of obligated and non-obligated property sales and other non-operating income**

Hub size	1996	1997	1998	1999	2000	Average
Total Large	29	29	29	29	29	145
# with net loss	6	13	9	15	15	58
% with net loss	21%	45%	31%	52%	52%	40%
Total Med. & Small	111	111	111	111	111	111
# with net loss	41	45	51	66	62	265
% with net loss	37%	41%	46%	59%	57%	48%
Non-hubs	175	178	174	185	193	905
# with net loss	324	326	326	326	324	1,626
% with net loss	54%	55%	53%	57%	60%	56%

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- ^I John Heimlich “The Road to Resuscitation”, Air Transport Association, November 27, 2002, <http://www.airlines.org/public/industry/display1.asp?nid=1026>
- ^{II} Ibid.
- ^{III} Ibid.
- ^{IV} Carol Hallet, Air Transport Association, as quoted in St. Louis Business Journal, November 25, 2002.
- ^V Pagano, Michael, Christopher Hoene “Most Cities’ Conditions Decline for First Time in a Decade”, Research Brief on America’s Cities, Issue 2002-1, National League of Cities, August 2002.
- ^{VI} Caffrey, Andrew “The Economy: Cities Expect Fiscal Shortfalls, Prepare to Cut Public Services”, Wall Street Journal, New York, NY August 16, 2002.
- ^{VII} DRI-WEFA, “The Role of Travel and Tourism in America’s Top 100 Metropolitan Areas”, Prepared for U.S. Conference of Mayors, The Travel Business Roundtable and the International Association of Convention and Visitors Bureaus, October 22, 2002, available at http://www.usmayors.org/uscm/news/press_releases/documents/atlanta_report_101702.pdf
- ^{VIII} Axtman, Kris “Art Venues find funding, and visitors, hard to come by”, Christian Science Monitor, September 9, 2002.
- ^{IX} Non-hub commercial service airports are those with less than 360,000 passengers per year or less than .05% of total enplanements, such as Daytona Beach International, Sioux Gateway, and Muskegon County Michigan
- ^X Airports Council International, “The Economic Impact of US Airports 2002”
- ^{XI} Comments from Russ Carlson, First Deputy Director Office of Budget and Management for City of Chicago at the Union League Club of Chicago, sponsored by Chicago League of Women Voters, November 19, 2002.
- ^{XII} Analysis of airport financial data from 1996 to 2000 from reported by airport sponsors to FAA, www.cats.faa.gov
- ^{XIII} 1985–2000: U.S. Department of Transportation, Bureau of Transportation Statistics, Government Transportation Financial Statistics: FY 1985-2000 (Washington, DC: forthcoming)
- ^{XIV} “Airport grant programs are funded from taxes and fees specifically collected for that purpose. These revenues are credited to the Aviation Trust Fund, created by Congress in 1970 to fund improvements to airports and the nation’s air traffic control system. The FAA dispenses grants to airports out of the trust fund for projects under the Airport Improvement Program.” (ATA, Airline Handbook- Online Version, 2/24/2002.) “Primary airports (422) receive an annual apportionment of at least \$1 million in AIP funds when AIP funding levels meet or exceed \$3.2 billion, with the amount determined by the number of enplaned passengers.” (National Plan of Integrated Airport Systems (NPIAS) (2001-2005).
- ^{XV} Fitch Ratings “US Airports in the 21st Century: Secure at What Cost”, April 10 2002 and FAA/OST Task Force Study “Airport Business Practices and Their Impact on Airline Competition”, October 1999.
- ^{XVI} ATA, Airline Handbook, 8/28/2001, and Chris Woodyard, “Airports struggle to pay bills; Drop in plane travel has facilities across the nation cutting costs”, USA Today, Arlington, VA, Jan 7, 2002
- ^{XVII} Elizabeth Carvlin, “Letters of Credit Stand at Center of Detroit Airport Controversy”, The Bond Buyer, Detroit, 8/27/2002.
- ^{XVIII} CNT and Analycise analysis of OAG data
- ^{XIX} Railways and Environment Contributions to Sustainable Mobility: Examples of Good Practice, September 2001, pp 8-9.



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